

CLASSIFICATION

CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

Final 35

REPORT NO. SO 10-27103

CD NO.

COUNTRY Chile/Germany

DATE DISTR. 31 July 1950

SUBJECT German Scientist's Article on "Flying Discs"

NO. OF PAGES 1

PLACE ACQUIRED

Return to CIA Library

NO. OF ENCLS. 1

DATE OF INFO.

Prior to mid-1950

SUPPLEMENT TO REPORT NO.

* Documentary
THIS IS UNEVALUATED INFORMATION

SOURCE

Attached for your information is a copy, in translation, of an article submitted by Dr. Edward Lurie for publication in Condor, a German language magazine published in Chile. The article is entitled "The Mystery of the 'Flying Discs,' a contribution to its possible explanation".

First report but being finalized

The significant conclusion drawn by the scientist in this report is that the old hypothesis of "boundary layer" was wrong. An object or airfoil had been exploited to produce an advantageous reaction and is the factor controlling the success of the "flying saucer" type of airfoil.

CLASSIFICATION

STATE	NAVY	<input checked="" type="checkbox"/> NSRB	DISTRIBUTION	
ARMY	31 AIR	<input checked="" type="checkbox"/> PBM		

Approved for Release

2/2010

ARCHIVAL RECORD
PLEASE RETURN TO
ARMED FORCES ARCHIVES

D-#1

CENTRAL INTELLIGENCE AGENCY

50 DB-27743
Attachment 1

-1-

THE MYSTERY OF THE "FLYING DISCS"

A contribution to its possible explanation.

By Dr. Eduard Ludwig, Santiago, Chile.
Av. Cristobal Colon 1916

Though the continuously reappearing reports on the appearance of new, mysterious aircraft of unknown construction should be considered with severe skepticism as the result of a sort of mass-hypnosis, nevertheless some of the detailed and coinciding accounts of technically trained observers deserve attention and permit one to draw conclusions as to the probable classification of these new aircraft.

Since so far the observations have been made mainly in the dark, which means that only the luminous parts of the craft are visible, every report brings the description of shining discs or circles. If one should discard the absurd conjecture that these aircraft originate from beyond this earth, then it is easy to arrive at the conclusion that the shining circles bear a relation to the exhaust of a rotary gas-turbine. The possibility exists that the rotor of a turbine is used at the same time as a stabilizing top and is therefore fixed vertically to the level of the other turbine rings, which in the darkness produces the effect of the "rings of Saturn".

These observations remind me of a completely new type of aircraft which was developed during the years I worked in the research plant of Professor Junkers in Dossau, which was attached to the airplane factories known all over the world. I do not know how many of my co-workers are still alive today, but I do know that Dr. Bock, Professor at the Technical High School of Berlin, and who was at that time my chief and friend of many years, has been deported to the Soviet Union.

The name of Professor Bock was never widely known due to his modest character, but he may have been the greatest genius of German airplane theoretics, and later, in view of his extraordinary faculties, he was named head constructor of the Ministry of German Airtways and Director of the German Institute of Airways Research in Berlin-Adlershof.

In order to explain to a wider circle of readers the basic idea of the new aircraft, I should like to submit first the following explanations:

(a) ~~since it is impossible to understand the following~~ -

The first [physician] and mathematician who considered the new Science of Aerodynamics after the commencement of purely experimental developments of aircraft construction was the Russian Professor Jukowski of Moscow. Before the First World War and together with my esteemed teacher, Dr. Kutta from the Technical High School of Stuttgart, Germany, he developed the theory of airplane-wingbeam. Professor Kutta succeeded in establishing the famous "Differential equation of the [boundary stratum] which for the first time throws light on the processes in current particles and which in any case explains for the first time theoretically the reason why a planewing can bear a load while moving forward through the air. Since then the "Kutta-Jukowski Theory of Airplane-wingbeam" has been the foundation of all aerodynamics. As already mentioned, the core of this work is the so-called "boundary stratum", which consists of the thin layer of air in which the transition of Velocity Zero to the Velocity of the Moving Object takes place. If the object is streamlined then the boundary stratum will endeavor not to sever, no whirlwinds will occur, and therefore no loss of energy will take place in that stratum. Since nature always functions most economically, it always tries to avoid loss of energy, and therefore a planewing would rather bear weight than cause a disruption of the course of the current and let the wing drop.

The logical conclusions based on these theoretic discoveries were obvious: already in the year 1915 Professor H. C. Bawman, also from the Technical High School of Stuttgart, received a patent on the "Splitwing" through which the artificial interruption of the course of the current, the tearing of the boundary stratum and the consequent breaking and diminishing of the landing speed would be attained. This

ARCHIVAL COPY
PLEASE RETURN TO
AGENCY ARCHIVES

procedure was later applied to a great extent to the fighter plane *Muster Ju. 82* under the name of "dive-brake". This patent had to be handed to the English factory *Mandley-Page* after World War I, which explains that the name of "Mandley-Page Splitwing" is more widely known.

However, developments proceeded. It was principally the Aerodynamic Experimental Institute of the Gottingen University, directed by the renowned Professors Prandtl and Bets, and Constructor Flettner, which drew its conclusions from the theory of the airplane-wing-theory. Flettner proved that the conditions of a rotating object are similar to those which appear in a "translatory" movement. Thus evolved the "Flettner-Rotor".

Professor Junkers, head of the well known airplane works in Dessau, who in the year 1915 received his pathbreaking patent on the one-piece metal wing without junctures, ordered a research group, which was headed by Professor Dr. Bock, and to which I had the honor to belong, to investigate to what extent the uplift of a wing could be increased through the attachment of a Flettner-Rotor in the shape of a cylinder turning at great speed. The cylinder was two-thirds of the length of the wing and was installed in the nose of the wing, where it could best be adapted to the wing's profile. To assist us with aerodynamic problems, the Gottingen University sent us Professor Prandtl. The experiments turned out to be extremely difficult and involved many casualties. The purely technical question of the speedy uplift of a long cylinder of light construction could not be solved at that time. Inexplicable vibrations and axle breakages occurred time after time which Professor Junkers ordered us to investigate, and with which we were occupied for months. Not less than four men, all experienced and tried pilots of the first World War and outstanding engineers, died in these experiments. It was clear to us that only a gas-turbine could produce the direct uplift of the cylinder. However, since meanwhile more pressing problems awaited solution, experiments with this type of aircraft were interrupted.

Meanwhile the Aerodynamic Experimental Institute of Gottingen made new and enlightening discoveries. Professor Bets found that supersonic speeds, such as are produced by quickly rotating propellers, created entirely new conditions. This investigation, however, needed the furnishing of a wind tunnel for supersonic speeds which could only be built many years later, and which after the war was forwarded to the United States where it greatly amazed all scientists.

Now light was shed on many things. It was found that the tearing of the boundary stratum at supersonic speeds involved much greater resistance, so that an object with full atmospheric pressure practically "hangs" from the upper layer of air, and theoretically experiences there the same uplift as an object of the same surface in the water. The converting of the revelations found in research into reality, however, needed the solution of the starting force through a gas-turbine or another equivalent machine or instrument.

Many heretofore unexplained phenomena now found an explanation. For example it had often been observed that the range of quickly rotating missiles ("Drehwirkung") was much greater than could be explained according to the laws of ballistics. Paradoxical explanations were sought for this such as that the air resistance decreases with growing speeds. Today we know that these quickly rotating missiles "swim" in the surrounding layers of air and therefore lose part of their weight. Full clarification was brought about only with supersonic speeds, which were obtained in the experiments with rockets (V-2) and were arrived at by flights of many hundreds and thousands of kilometers, and which can only be explained by the way in which these missiles literally "hang" in the air. The surprise of the specialised scientists the world over at the astounding results of the German V-2 was not less than that which is produced today by the appearance of the mysterious "Flying Discs".

In the same way in which the ingenious discernment of Professor Junkers pointed the way for airplane construction for the whole world, thus also may his idea of attaching Flettner Rotors have a revolutionary effect. Airplanes of this type must have such an enormous carrying capacity as to be practically comparable to amphibious planes of the same size. The lack of uplift produced by the Flettner Rotors can easily be achieved through the oblique position of the entire airplane.

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 10-10-2012 BY [redacted]
[redacted]
[redacted]

CENTRAL INTELLIGENCE AGENCY

SD DU-27243
Attachment 1

-3-

with a positive starting angle in connection with the enormously high starting speed. The attaching of speedily rotating tops assures side stability. There is also the possibility of attaching horizontal auxiliary propellers of the helicopter type. And what about the question of the starting force? The safety of such an aircraft stands and falls on the starting force of the cylinders, and only too well do I remember the casualties inflicted by the lack of it. As I mentioned before, only the development of a gas-turbine can bring the solution, since it consists only of rotating parts and works with the dependability of a steam engine.

There is only one more question to be answered: could such an aircraft carry enough fuel for world-wide journeys? This question is easily answered in the affirmative. In the first place such an aircraft has a tremendous carrying capacity, as we have already seen; and in the second place chemical research has made astounding developments in this respect. We know today—quite apart from atomic energy—carriers of energy of unsuspected power and duration. [It should be remembered that the missiles of German anti-tank weapons were coated with chemical substances which melted up to 20 cms. of steel plates within fractions of a second.] Energy carriers of this type, if applicable to a gas-turbine, should make an action-radius possible which far surpasses that of gasoline engines.

The future will show whether the "Flying Discs" are only the products of imagination or whether they are the results of a far-advanced German science which, possibly, as well as the nearly finished atomic bombs, may have fallen into the hands of the Russians.

1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209
2210
2211
2212
2213
2214
2215
2216
2217
2218
2219
2220
2221
2222
2223
2224
2225
2226
2227
2228
2229
2230
2231
2232
2233
2234
2235
2236
2237
2238
2239
2240
2241
2242
2243
2244
2245
2246
2247
2248
2249
2250
2251
2252
2253
2254
2255
2256
2257
2258
2259
2260
2261
2262
2263
2264
2265
2266
2267
2268
2269
2270
2271
2272
2273
2274
2275
2276
2277
2278
2279
2280
2281
2282
2283
2284
2285
2286
2287
2288
2289
2290
2291
2292
2293
2294
2295
2296
2297
2298
2299
2300
2301
2302
2303
2304
2305
2306
2307
2308
2309
2310
2311
2312
2313
2314
2315
2316
2317
2318
2319
2320
2321
2322
2323
2324
2325
2326
2327
2328
2329
2330
2331
2332
2333
2334
2335
2336
2337
2338
2339
2340
2341
2342
2343
2344
2345
2346
2347
2348
2349
2350
2351
2352
2353
2354
2355
2356
2357
2358
2359
2360
2361
2362
2363
2364
2365
2366
2367
2368
2369
2370
2371
2372
2373
2374
2375
2376
2377
2378
2379
2380
2381
2382
2383
2384
2385
2386
2387
2388
2389
2390
2391
2392
2393
2394
2395
2396
2397
2398
2399
2400
2401
2402
2403
2404
2405
2406
2407
2408
2409
2410
2411
2412
2413
2414
2415
2416
2417
2418
2419
2420
2421
2422
2423
2424
2425
2426
2427
2428
2429
2430
2431
2432
2433
2434
2435
2436
2437
2438
2439
2440
2441
2442
2443
2444
2445
2446
2447
2448
2449
2450
2451
2452
2453
2454
2455
2456
2457
2458
2459
2460
2461
2462
2463
2464
2465
2466
2467
2468
2469
2470
2471
2472
2473
2474
2475
2476
2477
2478
2479
2480
2481
2482
2483
2484
2485
2486
2487
2488
2489
2490
2491
2492
2493
2494
2495
2496
2497
2498
2499
2500
2501
2502
2503
2504
2505
2506
2507
2508
2509
2510
2511
2512
2513
2514
2515
2516
2517
2518
2519
2520
2521
2522
2523
2524
2525
2526
2527
2528
2529
2530
2531
2532
2533
2534
2535
2536
2537
2538
2539
2540
2541
2542
2543
2544
2545
2546
2547
2548
2549
2550
2551
2552
2553
2554
2555
2556
2557
2558
2559
2560
2561
2562
2563
2564
2565
2566
2567
2568
2569
2570
2571
2572
2573
2574
2575
2576
2577
2578
2579
2580
2581
2582
2583
2584
2585
2586
2587
2588
2589
2590
2591
2592
2593
2594
2595
2596
2597
2598
2599
2600
2601
2602
2603
2604
2605
2606
2607
2608
2609
2610
2611
2612
2613
2614
2615
2616
2617
2618
2619
2620
2621
2622
2623
2624
2625
2626
2627
2628
2629
2630
2631
2632
2633
2634
2635
2636
2637
2638
2639
2640
2641
2642
2643
2644
2645
2646
2647
2648
2649
2650
2651
2652
2653
2654
2655
2656
2657
2658
2659
2660
2661
2662
2663
2664
2665
2666
2667
2668
2669
2670
2671
2672
2673
2674
2675
2676
2677
2678
2679
2680
2681
2682
2683
2684
2685
2686
2687
2688
2689
2690
2691
2692
2693
2694
2695
2696
2697
2698
2699
2700
2701
2702
2703
2704
2705
2706
2707
2708
2709
2710
2711
2712
2713
2714
2715
2716
2717
2718
2719
2720
2721
2722
2723
2724
2725
2726
2727
2728
2729
2730
2731
2732
2733
2734
2735
2736
2737
2738
2739
2740
2741
2742
2743
2744
2745
2746
2747
2748
2749
2750
2751
2752
2753
2754
2755
2756
2757
2758
2759
2760
2761
2762
2763
2764
2765
2766
2767
2768
2769
2770
2771
2772
2773
2774
2775
2776
2777
2778
2779
2780
2781
2782
2783
2784
2785
2786
2787
2788
2789
2790
2791
2792
2793
2794
2795
2796
2797
2798
2799
2800
2801
2802
2803
2804
2805
2806
2807
2808
2809
2810
2811
2812
2813
2814
2815
2816
2817
2818
2819
2820
2821
2822
2823
2824
2825
2826
2827
2828
2829
2830
2831
2832
2833
2834
2835
2836
2837
2838
2839
2840
2841
2842
2843
2844
2845
2846
2847
2848
2849
2850
2851
2852
2853
2854
2855
2856
2857
2858
2859
2860
2861
2862
2863
2864
2865
2866
2867
2868
2869
2870
2871
2872
2873
2874
2875
2876
2877
2878
2879
2880
2881
2882
2883
2884
2885
2886
2887
2888
2889
2890
2891
2892
2893
2894
2895
2896
2897
2898
2899
2900
2901
2902
2903
2904
2905
2906
2907
2908
2909
2910
2911
2912
2913
2914
2915
2916
2917
2918
2919
2920
2921
2922
2923
2924
2925
2926
2927
2928
2929
2930
2931
2932
2933
2934
2935
2936
2937
2938
2939
2940
2941
2942
2943
2944
2945
2946
2947
2948
2949
2950
2951
2952
2953
2954
2955
2956
2957
2958
2959
2960
2961
2962
2963
2964
2965
2966
2967
2968
2969
2970
2971
2972
2973
2974
2975
2976
2977
2978
2979
2980
2981
2982
2983
2984
2985
2986
2987
2988
2989
2990
2991
2992
2993
2994
2995
2996
2997
2998
2999
3000
3001
3002
3003
3004
3005
3006
3007
3008
3009
3010
3011
3012
3013
3014
3015
3016
3017
3018
3019
3020
3021
3022
3023
3024
3025
3026
3027
3028
3029
3030
3031
3032
3033
3034
3035
3036
3037
3038
3039
3040
3041
3042
3043
3044
3045
3046
3047
3048
3049
3050
3051
3052
3053
3054
3055
3056
3057
3058
3059
3060
3061
3062
3063
3064
3065
3066
3067
3068
3069
3070
3071
3072
3073
3074
3075
3076
3077
3078
3079
3080
3081
3082
3083
3084
3085
3086
3087
3088
3089
3090
3091
3092
3093
3094
3095
3096
3097
3098
3099
3100
3101
3102
3103
3104
3105
3106
3107
3108
3109
3110
3111
3112
3113
3114
3115
3116
3117
3118
3119
3120
3121
3122
3123
3124
3125
3126
3127
3128
3129
3130
3131
3132
3133
3134
3135
3136
3137
3138
3139
3140
3141
3142
3143
3144
3145
3146
3147
3148
3149
3150
3151
3152
3153
3154
3155
3156
3157
3158
3159
3160
3161
3162
3163
3164
3165
3166
3167
3168
3169
3170
3171
3172
3173
3174
3175
3176
3177
3178
3179
3180
3181
3182
3183
3184
3185
3186
3187
3188
3189
3190
3191
3192
3193
3194
3195
3196
3197
3198
3199
3200
3201
3202
3203
3204
3205
3206
3207
3208
3209
3210
3211
3212
3213
3214
3215
3216
3217
3218
3219
3220
3221
3222
3223
3224
3225
3226
3227
3228
3229
3230
3231
3232
3233
3234
3235
3236
3237
3238
3239
3240
3241
3242
3243
3244
3245
3246
3247
3248
3249
3250
3251
3252
3253
3254
3255
3256
3257
3258
3259
3260
3261
3262
3263
3264
3265
3266
3267
3268
3269
3270
3271
3272
3273
3274
3275
3276
3277
3278
3279
3280
3281
3282
3283
3284
3285
3286
3287
3288
3289
3290
3291
3292
3293
3294
3295
3296
3297
3298
3299
3300
3301
3302
3303
3304
3305
3306
3307
3308
3309
3310
3311
3312
3313
3314
3315
3316
3317
3318
3319
3320
3321
3322
3323
3324
3325
3326
3327
3328
3329
3330
3331
3332
3333
3334
3335
3336
3337
3338
3339
3340
3341
3342
3343
3344
3345
3346
3347
3348
3349
3350
3351
3352
3353
3354
3355
3356
3357
3358
3359
3360
3361
3362
3363
3364
3365
3366
3367
3368
3369
3370
3371
3372
3373
3374
3375
3376
3377
3378
3379
3380
3381
3382
3383
3384
3385
3386
3387
3388
3389
3390
3391
3392
3393
3394
3395
3396
3397
3398
3399
3400
3401
3402
3403
3404
3405
3406
3407
3408
3409
3410
3411
3412
3413
3414
3415
3416
3417
3418
3419
3420
3421
3422
3423
3424
3425
3426
3427
3428
3429
3430
3431
3432
3433
3434
3435
3436
3437
3438
3439
3440
3441
3442
3443
3444
3445
3446
3447
3448
3449
3450
3451
3452
3453
3454
3455
3456
3457
3458
3459
3460
3461
3462
3463
3464
3465
3466
3467
3468
3469
3470
3471
3472
3473
3474
3475
3476
3477
3478
3479
3480
3481
3482
3483
3484
3485
3486
3487
3488
3489
3490
3491
3492
3493
3494
3495
3496
3497
3498
3499
3500
3501
3502
3503
3504
3505
3506
3507
3508
3509
3510
3511
3512
3513
3514
3515
3516
3517
3518
3519
3520
3521
3522
3523
3524
3525
3526
3527
3528
3529
3530
3531
3532
3533
3534
3535
3536
3537
3538
3539
3540
3541
3542
3543
3544
3545
3546
3547
3548
3549
3550
3551
3552
3553
3554
3555
3556
3557
3558
3559
3560
3561
3562
3563
3564
3565
3566
3567
3568
3569
3570
3571
3572
3573
3574
3575
3576
3577
3578
3579
3580
3581
3582
3583
3584
3585
3586
3587
3588
3589
3590
3591
3592
3593
3594
3595
3596
3597
3598
3599
3600
3601
3602
3603
3604
3605
3606
3607
3608
3609
3610
3611
3612
3613
3614
3615
3616
3617
3618
3619
3620
3621
3622
3623
3624
3625
3626
3627
3628
3629
3630
3631
3632
3633
3634
3635
3636
3637
3638
3639
3640
3641
3642
3643
3644
3645
3646
3647
3648
3649
3650
3651
3652
3653
3654
3655
3656
3657
3658
3659
3660
3661
3662
3663
3664
3665
3666
3667
3668
3669
3670
3671
3672
3673
3674
3675
3676
3677
3678
3679
3680
3681
3682
3683
3684
3685
3686
3687
3688
3689
3690
3691
3692
3693
3694
3695
3696
3697
3698
3699
3700
3701
3702
3703
3704
3705
3706
3707
3708
3709
3710
3711
3712
3713
3714
3715
3716
3717
3718
3719
3720
3721
3722
3723
3724
3725
3726
3727
3728
3729
3730
3731
3732
3733
3734
3735
3736
3737
3738
3739
3740
3741
3742
3743
3744
3745
3746
3747
3748
3749
3750
3751
3752
3753
3754
3755
3756
3757
3758
3759
3760
3761
3762
37